From: Brown, Cheryl A. [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP

(FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DD6F8A562924439AAF97CA98DDAF1E10-BROWN, CHERYL]

Sent: 11/14/2016 10:03:55 PM

To: Fullagar, Jill [/o=ExchangeLabs/ou=Exchange Administrative Group

(FYDIBOHF23SPDLT)/cn=Recipients/cn=7ba061353c314b40a14a8be1ee382ae3-Gable, Jill]; Cox, Michael

[/o=ExchangeLabs/ou=Exchange Administrative Group

(FYDIBOHF23SPDLT)/cn=Recipients/cn=cddd6a5bb3c2477183799ef56cdb464f-Cox, Michael]; Labiosa, Rochelle

[/o=ExchangeLabs/ou=Exchange Administrative Group

(FYDIBOHF23SPDLT)/cn=Recipients/cn=ded3654216c9461d95cd5a3ceec507ef-Labiosa, Rochelle]; Cope, Ben

[/o=ExchangeLabs/ou=Exchange Administrative Group

(FYDIBOHF23SPDLT)/cn=Recipients/cn=497efadd936e4d378225116b8f50fd3f-Cope, Ben]; Cora, Lori

[/o=ExchangeLabs/ou=Exchange Administrative Group

(FYDIBOHF23SPDLT)/cn=Recipients/cn=c8850941bf1540c796559dce75c2f5ee-Cora, Lori]

Subject: RE: briefing doc

Attachments: Lischka et al 2011 Impact of OA and elevated temperature on Limacina helicina.pdf

Hi All,

I'll send my comments shortly. I have incorporated mine into the version Lori Cora sent.

I just want to bring up a couple of things:

Deliberative Process / Ex. 5

2) Attached is a paper which is a laboratory experiment on the same species of pteropods but they were from a much colder environment (Arctic). They conducted experiments to look at the effect of elevated temperature and acidification. This study is interesting for several reasons: 1) they found warming had a larger impact then OA; 2) their warm experiments were conducted at temperatures that occur on the shelf here (T = 8 deg C) and they have mortality (not just shell damage) as a function of pCO2 (also pH, and aragonite saturation are report). I just wanted to be sure you knew about this study.

(I have attached a pdf); however, I'm not sure if pteropods found in the PNW would exhibit similar effects. Also, although this species of pteropod is widespread there are different subspecies, see

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0009835 and

http://www.marinespecies.org/aphia.php?p=taxdetails&id=140223.

Comments on briefing document and Dana Thomas memo will be sent shortly. Also, just a FYI I will be out in the field all day tomorrow.

Cheers, Cheryl

From: Fullagar, Jill

Sent: Monday, November 14, 2016 7:40 AM

To: Cox, Michael <Cox.Michael@epa.gov>; Brown, Cheryl A. <Brown.Cheryl@epa.gov>; Labiosa, Rochelle

<labiosa.rochelle@epa.gov>; Cope, Ben <Cope.Ben@epa.gov>; Cora, Lori <Cora.Lori@epa.gov>

Subject: RE: briefing doc

Looks good. Thanks Mike. If anyone else has comments, you can add onto Mike's or send separately by COB today. I'd like to send it tonight. Thanks.

1111

Jill Fullagar, Impaired Waters Coordinator
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(206) 553-2582, (206) 553-1280 (fax)
fullagar.jill@epa.gov

From: Cox, Michael

Sent: Monday, November 14, 2016 7:15 AM

To: Fullagar, Jill < Fullagar, Jill@epa.gov>; Brown, Cheryl A. < Brown. Cheryl@epa.gov>; Labiosa, Rochelle

! Cope, Ben < Cope.Ben@epa.gov">: Cora, Lori < Cora.Lori@epa.gov>

Subject: RE: briefing doc

Thanks Jill. I have attached some suggestions for the briefing document. If you need to reach me you can call my cell phone as I am at a conference this week.

Personal Privacy / Ex. 6

Michael Cox
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cox.michael@epa.gov

From: Fullagar, Jill

Sent: Thursday, November 10, 2016 12:25 PM

To: Brown, Cheryl A.; Cox, Michael; Labiosa, Rochelle; Cope, Ben; Cora, Lori

Subject: briefing doc

Hi all,

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

[Please take a look, if you have time, to see if it needs further revision. Keep in mind, I will be sending the slides Cheryl just recently generated, and the doc we used last week with NOAA, as well. I have meetings until 2pm and then have to leave today, and am offsite all day on Monday. If you can get your revisions back to me by 5pm on Monday, I will send things out Monday before I go home. I'll work on developing an agenda on Tuesday. I expect that I'll give some background on where we're at with the list and our conversations with NOAA, etc. Cheryl, if you could then explain your analysis and graphs, that would be great, and Rochelle—if you could add in any other data/scientific info they should have, that would be lovely. Lori—I think then a summary of your thinking with Steve Sweeney and the legal pros and cons would be good. Thanks everyone.

jill

Jill Fullagar, Impaired Waters Coordinator

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